Edumatica: Jurnal Pendidikan Matematika
Volume 15 Number 01 April 2025

Submited : 09 January 2025
Revised : 10 April 2025
Accepted : 21 April 2025

Pengembangan Video Pembelajaran Berbasis Kontekstual Materi SPLDV untuk Meningkatkan Kemampuan Literasi Matematis Peserta Didik

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Abstrak

Pemanfaatan teknologi dalam pembelajaran harus dioptimalkan, salah satunya adalah dengan penggunaan video pembelajaran. Penelitian ini bertujuan mengetahui proses pengembangan video pembelajaran dan mengetahui tingkat kevalidan, kepraktisan, dan keefektifan video pembelajaran. Jenis penelitian ini adalah penelitian *Research and Development* dengan model pengembangan ADDIE (*Analysis, Design, Development, Implementation, and Evaluation*). Instrumen yang digunakan adalah lembar validasi, lembar observasi keterlaksanaan pembelajaran, lembar observasi aktivitas peserta didik, angket respon guru, angket respon peserta didik serta tes kemampuan literasi matematis. Subjek penelitian adalah peserta didik kelas VIII.2 MTs Negeri Gowa. Hasil penelitian menunjukkan capaian analisis validasi oleh tim validator adalah 3,83 dengan kategori sangat valid. Kriteria kepraktisan 90,38% dengan respon sangat positif dan observasi keterlaksanaan pembelajaran 1,85 dengan kategori terlaksana seluruhnya. Hasil kriteria keefektifan 85,43% dengan respon positif, hasil analisis observasi aktivitas peserta didik 71,05% dengan kategori baik, dan kemampuan literasi matematis peserta didik 76,05%. Kesimpulan dari penelitian ini adalah video pembelajaran berbasis kontekstual pada materi SPLDV untuk meningkatkan kemampuan literasi matematis peserta didik berkualitas baik terbukti rata-rata siswa berada dilevel 4 yaitu 68,42% sehingga efektif diterapkan dalam proses pembelajaran karena memenuhi kriteria kevalidan, kepraktisan, dan keefektifan. Peneliti lain juga dapat melakukan pengembangan video dengan variasi alat bantu maupun materi yang berbeda.

Kata Kunci: kemampuan literasi matematis, kontekstual, SPLDV, video pembelajaran

Development of Contextual-Based Learning Videos on the Material of SPLDV to Improve Students' Mathematical Literacy Skills

Abstract

Technology in learning must be optimized, one of which is using learning. This study aims to determine the process of developing learning videos and the validity, practicality, and effectiveness of learning videos. This type of research is Research and Development research with the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation). The instruments used are a validation sheet, a learning implementation observation sheet, a student activity observation sheet, a teacher response questionnaire, a student response questionnaire, and a mathematical literacy ability test. The research subjects were students of class VIII, 2 MTs Negeri Gowa. The results showed that the validation analysis achievement by the validator team was 3.83, which is a very valid category. Practicality criteria of 90.38% with a very positive response, and the results of observations of learning implementation 1.85, with the category fully implemented. The results of the effectiveness criteria were 85.43% with a positive response, 71.05% student activity observation analysis with a good category, and 76.05%. So it is concluded that the context-based learning video on SPLDV material to improve students' mathematical literacy skills is of good quality, as evidenced by the average student being at level 4, namely 68.42%. So that it is effectively applied in the learning process because it meets the criteria of validity, practicality, and effectiveness. Other researchers can also develop videos with different tools and materials.

***Keywords**: contextual; learning video; mathematical literacy skills; SPLDV*

INTRODUCTION

Education today has developed with various updates to improve its quality. Therefore, in this modern era, education plays an important role in creating generations of nations that can keep up with the pace of development of science and technology (Anwar, 2018). Rapid development among the community has resulted in an increase in the utilization of technological results from various aspects, not least in the world of education, one of which is learning mathematics (Dewi & Izzati, 2020).Mathematics is one of the basic sciences, and it plays an important role in everyday life and the development of science and technology (Anwar, 2018).According to the National Council of Teachers of Mathematics (NCTM) (2020), mathematics learning should involve five abilities: problem solving, communication, reasoning, connection, and representation. These five abilities are included in mathematical literacy. By developing these five abilities, students can gain a deep understanding of mathematics and apply it in various situations. Mastery of mathematical literacy skills is essential, considering this ability allows them to utilize mathematics relevant to daily activities (Nadila & Lestiana, 2025).

Mathematical literacy is the ability to explore, guess, and reason precisely and logically and to use various mathematical methods effectively to solve a problem (Muallifah & Fahmi, 2022). Literacy is the cornerstone of success in school, in today's society, and life (Kirsten, 2019). Therefore, helping learners become independent readers and writers is the primary goal of educators. Simply put, mathematical literacy can be defined as the ability to understand and use mathematics in various contexts to solve problems in everyday life (Setiawan, 2019).

Mathematical literacy skills are essential because mathematics is closely related to everyday life (Sari, 2015). Mathematical literacy skills can improve human resources (Masjaya & Wardono, 2018). Mathematical literacy can help a person understand mathematics's role or use in everyday life. In addition, mathematical literacy emphasizes students' ability to analyze, reason, and communicate ideas effectively in solving mathematical problems they encounter (Muzaki & Masjudin, 2019). However, the mathematical literacy skills of Indonesian students still need much attention. PISA results in 2018, published by the Organization for Economic Cooperation and Development (OECD), found that Indonesian students have reading skills with an average score of 371, while the OECD average score is 478. Indonesia is ranked 74th, or sixth from the bottom. So, further action is needed to improve the reading ability of Indonesian students. As for math, it reached a score of 379, with an average OECD score of 478. Indonesia is in position 73, or seventh from the bottom. This development is needed to increase or improve students' math literacy skills.

One of the mathematics materials relevant to everyday life is the System of Linear Equations of Two Variables (SPLDV) material. Generally, everyday problems presented in story exercises are problematic because students do not understand them. This is supported by research Yusuf & Fitriani (2020), some difficulties experienced by students when working on SPLDV story problems, namely (1) students have difficulty understanding the problem; (2) students have difficulty when converting story problems into mathematical models; (3) oriented to formulas; (4) students lack understanding of concepts; (5) not finding the right way and so on. In addition, based on research by Jayanti & Hidayat (2020), SPLDV difficulties are due to students' lack of reading problems, lack of accuracy when identifying problems, and lack of understanding of concepts (Gumelar & Afrilianto, 2021). Each student must make different mistakes. Therefore, if one step is done incorrectly, the whole process in mathematical material will be affected and not produce the correct answer, because mathematics must be completed sequentially with the proper steps. Errors that often hinder learning are usually students' lack of willingness to understand math and literacy (Abida & Setyaningsih, 2022).

Students struggle to work on mathematical literacy problems because they are more accustomed to routine problems (Rismen, Putri, & Jufri, 2022). As a result, they find it challenging to deal with literacy problems. To solve mathematical literacy problems, a deep understanding of concepts is needed so that students can connect mathematical concepts with existing problems. In addition, learning media is important to help the learning process, making learning easier for students to understand (Afifah, Yuniati, Kurniati, & Rahmi, 2024). Given the low mathematical literacy skills of students, one of the things that needs to be considered by teachers is to develop learning media that is interesting and able

 Print ISSN: 2088-2157, Online ISSN: 2580-0779

to train students' learning independence in order to improve students' mathematical literacy understanding skills (Gustiningsi, Indra Putri, Zulkardi, & Hapizah, 2024; Gustiningsi, Putri, Zulkardi, & Hapizah, 2024b, 2024a). In addition, mathematics learning applied by teachers at school will not be separated from conventional methods embedded in learning. Where learning is centered on the teacher, and students only receive knowledge from the teacher. Learners simply listen and write the knowledge the teacher gives without knowing how to obtain that knowledge, so students tend to memorize mathematical formulas only. As a result, students have difficulty in understanding and applying mathematical concepts. So, it is necessary to have enjoyable math learning media in order to overcome students' math learning difficulties (Fadlikah & Rahmawati, 2021).

One alternative to improve students' mathematical literacy skills is to provide new and interesting innovations to motivate students to learn more. In supporting students' mathematical literacy skills, the right learning media is needed so that students can understand the material taught (Muallifah & Fahmi, 2022). One of the learning media that supports the use of learning videos. Media is a means that can be used as an intermediary that is useful for increasing effectiveness and efficiency in achieving goals, thus providing benefits for teachers and students (Masykur, Nofrizal, & Syazali, 2017). In line with that, Shafa & Yunianta (2022a) Said that the media will benefit learning, especially in mathematics, which is an abstract subject requiring students' mathematical abilities. For this reason, interactive learning video media presents content such as text, animation, moving images, and videos that can increase students' mathematical literacy skills.

Video is a medium for conveying messages, including audio-visual media or hearing-viewing media (Purwanti, 2015).Video is also a medium that can bring reality to the classroom. It can provide a real picture to students. Video media can provoke learning to be more lively because it will raise students' curiosity. Using innovative learning media is expected to attract students' interest and attention so they can easily and pleasantly understand the material (Khairani & Ain, 2021). Therefore, learning media is very much needed to support the process of children's cognitive development, in line with research by Suseno et al., (2020) In mathematics, media is needed to communicate between teachers and students to clarify abstract concepts. The use of video media that adds visualization is proven to improve teacher and student learning outcomes (Chen, Chan, Chan, Clarke, & Resnick, 2020).

The use of learning videos is considered to make it easier for students to learn and remember. Videos create learning independence, are communicative, show things in detail and complexity, can be repeated, slowed down, and even enlarged, and compare two or more scenes simultaneously (Nurdin et al., 2019). Learning videos are learning videos as a medium used to stimulate students' thoughts, feelings, and willingness to learn through the presentation of ideas, messages, and information (Ismawati, Desak Putu Parmiti, & I Gde Wawan Sudatha, 2023). Compared to conventional methods, it can make students less interested and less motivated to learn (Nur Azmi Alwi & Putri Lestari Agustia, 2024).Conventional methods make students less active and bored. Learning media can provide more varied and active learning. Learning videos are easy, and adequate technological developments can help the learning process.

In addition to using learning media in the form of videos, another effort to overcome the above problems is to combine learning videos with a contextual approach. This aligns with research (Wijayanti et al., 2021a), which stated that the mathematics learning video with a contextual approach meets the assessed aspects and is feasible to be utilized as one of the learning media. The contextual approach is an approach that helps teachers link the material taught with the real-world situation of students and encourage students to make connections between the knowledge they have and its application in their lives as members of families and communities, as well as knowledge gained from students' efforts to construct new knowledge and skills themselves when they learn (Mukhtar, Maimunah, & Yuanita, 2022). In line with research by Ahmad & Nasution (2019), it was obtained that in the contextual approach, students are always active in learning and excited and enthusiastic in constructing learning materials. Hence, students' mathematical literacy skills increase compared to the usual model approach.

Based on the description above, it is important to develop a learning video based on mathematical literacy that is fun for students and can be used in solving problems related to student understanding of

SPLDV material. Thus, researchers are interested in making innovations by developing context-based learning videos on the material of the system of linear equations of two variables (SPLDV) to improve students' mathematical literacy skills. This research has differences from previous studies that developed learning videos, starting from the type of approach, application, material, or video developed. The novelty of this research is to develop a learning video that utilizes audio-visual media and is then associated with contextual and interactive steps to help students' mathematical literacy skills. In addition, this learning video uses lightweight applications, namely Canva and Plotagon, to produce interesting learning videos through 3D animations and by discussing the material. This research aims to develop context-based learning videos on SPLDV material to improve students' mathematical literacy skills.

METHOD

The type of research applied is development research (research and development). This research aims to produce products that meet validity, practicality, and effectiveness. The product produced is a contextual-based learning video product on the material System of linear equations of two variables (SPLDV) to improve students' mathematical literacy skills. The development model carried out in this study is the ADDIE development model, which consists of 5 stages, namely Analysis, Design, Development, Implementation, and Evaluation (Maydiantoro, 2020).The subjects in this study were students of class VIII.2 MTsN Gowa, totaling 19 students. The instruments used in this study include validation sheets, student activity observation sheets, observation sheets for implementing learning videos, teacher response questionnaires, student response questionnaires, and tests of students' mathematical literacy skills.

This analysis stage is carried out by collecting information to find out the material that is considered difficult by students and the teacher's learning process. After finding a problem that conforms to the needs of students and teachers at the previous analysis stage, the following action is carried out: implementing a design. The design stage of the learning video is carried out by researchers, namely, designing related to developing this learning media. The media to be developed is a contextual-based learning video. The arrangement in the learning video is 1) Constructivism, 2) Inquiry, 3) Questioning, 4) Learning Community, 5) Modeling, 6) Reflection, 7) Authentic Assessment. The following is an explanation of the contextual steps:

Table 1. Contextual Stages

CTL Syntax	Description
Contructivism	Constructivism is the process of building students' knowledge from their experiences.
Inquiry	The inquiry stage allows students to independently form and search for knowledge or concepts.
Questioning	In the Contextual approach, the teacher gives questions that lead to the concept being learned.
Learning Community	In Contextual learning, the interaction between students and their environment can help them understand the concepts learned.
Modelling	Modeling is seen by the examples presented during the learning process, either by the teacher or the students.
Reflection	In Contextual learning, the teacher helps students recall what they have learned that day at the end of each lesson.
Authentic Assessment	Authentic assessment or real assessment is an assessment of student development.

Furthermore, at this development stage, the previous design, which is used as a basis, will become a process in developing the resulting product. The design of the developed product becomes a product that is ready to be applied, from the learning media that have been developed, obtained through media and material expert validation. The design that has been developed previously is tested in the appropriate class on the scenario and process design that has been made. The product that has been made, at the application stage, is then revised at the evaluation stage. This evaluation stage is carried out regarding the unmet needs of Video development.

 Print ISSN: 2088-2157, Online ISSN: 2580-0779

The data analysis technique used in this study is related to validity, practicality, and effectiveness data. The three data points were analyzed using the formula $\bar{X} = \sum_{i=1}^{n} \overline{A_I} / n$, where $\bar{X}$ is the total average, $\overline{A_I}$ is the average of the i-th aspect, and n is the number of aspects. The level of validity is reviewed from the validation sheet, which is categorized based on the following table 2:

Table 2. Criteria for Degree of Validity (Ilyas, Ma'rufi, & Nisraeni, 2015)

Interval	Category
$3{,}5 \leq M \leq 4$	Very valid
$2{,}5 \leq M < 3{,}5$	Valid
$1{,}5 \leq M < 2{,}5$	LessValid
$M < 1{,}5$	Invalid

All instruments and products are said to have a good level of validation if the average validation for all aspects is at least in the moderately valid category, and the validity value for each aspect is at least in the valid category. The level of practicality in terms of the teacher response questionnaire and the observation sheet for the implementation of the learning video is categorized based on Tables 3 and 4 below:

Table 3: Teacher Response Questionnaire Criteria (Widoyoko, 2009)

Range	Qualifications
$85\% \leq p < 100\%$	Very Positive
$70\% \leq p < 85\%$	Positive
$60\% \leq p < 70\%$	Positive Enough
$50\% \leq p < 60\%$	Less Positive
$p < 50\%$	Not Positive

Table 4. Criteria for Implementation of Learning Video

Interval	Qualifications
$1{,}5 < M \leq 2$	Completely Implemented
$0{,}5 < M \leq 1{,}5$	Partially Implemented
$0 \leq M \leq 0{,}5$	Not Implemented

Source: (Arsyad, 2016)

The level of effectiveness in terms of teacher response questionnaire analysis and student activity observation sheet is categorized based on Tables 5 and 6 below:

Table 5. Learner Response Questionnaire Criteria (Widoyoko, 2009)

Range	Qualifications
$85\% \leq p < 100\%$	Very Positive
$70\% \leq p < 85\%$	Positive
$60\% \leq p < 70\%$	Positive Enough
$50\% \leq p < 60\%$	Less Positive
$p < 50\%$	Not Positive

Source:

Table 6. Learner Activity Criteria (Arsyad, 2016)

Range	Qualifications
$80\% \leq p < 100\%$	Very Good
$60\% \leq p < 80\%$	Good
$40\% \leq p < 60\%$	Simply
$20\% \leq p < 40\%$	less
$0\% \leq p < 20\%$	Very Less

Data analysis of students' mathematical literacy skills can be categorized based on the standard categories set by Depdiknas, namely:

Table 7. Criteria for Mathematical Literacy ability

Range	Qualifications
$91 \leq p < 100$	Very Good
$75 \leq p < 90$	Good
$60 \leq p < 74$	Simply
$40 \leq p < 59$	less
$0 \leq p < 39$	Very Less

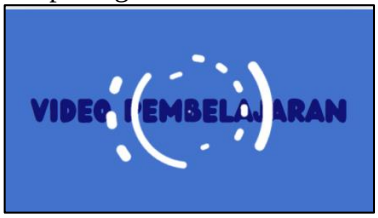
RESULTS

The development of this learning video media is based on the stages of the ADDIE development model. The analysis stage includes material analysis and product manufacturing tools analysis. In analyzing the problem, researchers identified the problems faced by students and teachers. It was found that the difficulty of students in understanding SPLDV material led to the selection of learning videos as learning media, so that students could further explore their abilities and were expected to be able to make learning more innovative and increase students' enthusiasm for learning. Furthermore, an analysis of difficult material for students to understand is carried out. It is found that students have difficulty with SPLDV material due to difficulties in linking mathematics to life concepts. Besides that, SPLDV requires reasoning and mastery of concepts, so considering the material becomes a prerequisite for students to understand SPLDV material well, especially in building their literacy skills. Then in the analysis of product manufacturing tools, namely by analyzing applications that are easy to use and features that make it easy to make learning videos, namely by using the Canva, Plotagon, and Zepeto applications.

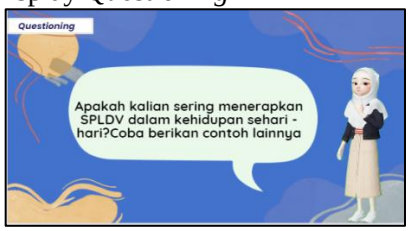
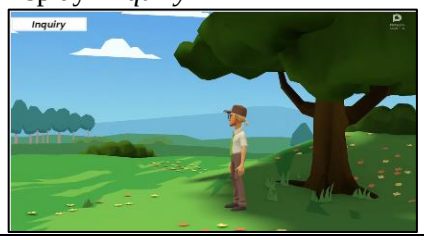
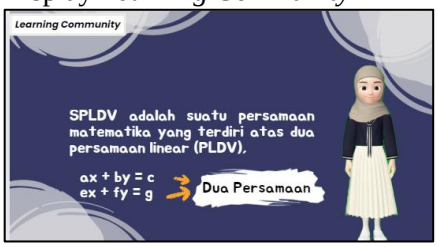
The second stage is the learning video design process by designing the learning video to be made starting from the initial design of the learning video then the learning video media format based on contextual steps, namely: (1) contructivism (2) Questioning (Asking) (3) Inquiry (Determining) (4) Learning Community (Learning community) (5) Modeling (Modeling) (7) Reflection (Reflection) (6) Authentic Assessment (Authentic Assessment). Furthermore, the research instrument planning was carried out by compiling instruments that would be used in the study, which consisted of teacher and student response questionnaires, student activity observation sheets, learning implementation observation sheets, and mathematical literacy ability tests.

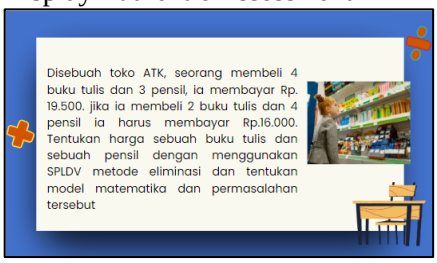
At the development stage, by working on the instruments needed, and contextual-based learning videos. The learning video developed consists of several components, namely the initial appearance of the video opening (figure 1), contructivism (Contructivism) (figure 2), questioning (Questioning) (figure 3), Inquiry (Determining) (figure 4), Learning Community (learning community) (figure 5), modeling (modeling) (figure 6), reflection (reflection) (figure 7) and authentic assessment (authentic assessment) (figure 8), the following are the components that exist in the learning video.

Table 8. Learning Video Display

Display	Description
Yhe Opening View 	The opening view is the initial appearance of the video and becomes the face of the learning video, which contains the appearance and material to be learned. The opening in this video contains greetings to students and also displays the biodata of the video maker by displaying the name, department, and university name.

Print ISSN: 2088-2157, Online ISSN: 2580-0779

Display	Description
Display CP dan TP (Kontruktivisme) 	Contractivism displays Learning Outcomes and learning objectives. Here is a look at the basic competencies and objectives
Display *Questioning* 	Questioning displays a question related to the System of Linear Equations of Two Variables. Before explaining the SPLDV material, an initial question is given to help students actively answer questions.
Display *Inquiry* 	Inquiry displays the events of the system of linear equations of two variables in everyday life. Illustrations related to daily life are given to increase learners' knowledge of SPLDV in daily life, which is often applied.
Display *Learning Community* 	The Learning Community explained the material's content on the system of linear equations of two variables, which consists of understanding, general equations of SPLDV, types of solution methods, and steps for solving each SPLDV method.
Display *Modelling* 	Modeling displays examples of SPLDV problems and solutions by describing examples of SPLDV problems related to everyday life. This modeling display provides examples of SPLDV problems related to daily life, displayed as a 3D animation using the Plotagon application. Then it forms a problem that can be solved using SPLDV. Moreover, the solution to the problem can be displayed by explaining how to solve it based on the method used.

Display	Description
Display *Reflection* 	Reflection involves asking students questions related to what they have mastered and what they have not mastered after seeing the explanation of the learning video, which helps them recall what material they have learned that day.
Display *Authentic Assessment* 	Authentic Assessment is an assessment carried out based on the exercise questions displayed. Authentic Assessment displays several sample problems that cover the material to be studied by students. The questions in this video contain mathematical literacy-based SPLDV problems, which aim to provide habituation to students to carry out a mathematization process that can help students practice working on SPLDV problems using the graph, substitution, elimination, and combination methods.

After the development of the learning video, expert validators then validated the video, see Table 9 below:

Table 9. Learning Video Validation Results

Indicator	Assessment	Description
Content Aspect	3,83	Very Valid
Learning Aspects	3,65	Very Valid
Language Aspect	3,75	Very Valid
Simplicity Aspect	4	Very Valid
Shape Aspect	4	Very Valid
Color Aspect	3,66	Very Valid
Balance Aspect	3,88	Very Valid
Average Total Validity	3,83	Very Valid

Table 9 shows that the contextual-based learning video that has been developed is very valid and can be implemented at the product trial stage or implementation stage.

In stepping into the next stage, namely the implementation stage, the required instruments are developed, namely the observation sheet for implementing the learning video, the teacher response questionnaire, the student response questionnaire, the student activity observation sheet, and the SPLDV mathematical literacy ability test. In order for all developments to be recognized for their validity, at this stage, a validation of the validators is also carried out. See in Table 7 below:

Table 10. Instrument Validation Result

Validation Sheet	Indicator	Assessment	Description
Learning Implementation	1. Guidance Aspect	4	Very Valid
	2. Language Aspect	3,83	Very Valid
	3. Content Aspect	4	Very Valid
	Average	3,79	Very Valid

Print ISSN: 2088-2157, Online ISSN: 2580-0779

Teacher Response Questionnaire	1. Aspect Instructions	4	Very Valid
	2. Language Aspect	3,5	Very Valid
	3. Content Aspect	4	Very Valid
	Average	3,83	Very Valid
Learner Response Questionnaire	1. Aspect Instructions	4	Very Valid
	2. Language Aspect	3,5	Very Valid
	3. Content Aspect	4	Very Valid
	Average	3,83	Very Valid
Learner Activity Observation Sheet	1. Aspect Instructions	4	Very Valid
	2. Language Aspect	3,5	Very Valid
	3. Content Aspect	4	Very Valid
	Average	3,83	Very Valid
Math Literacy Test	1. Graphics	3,5	Very Valid
	2. Substitution	4	Very Valid
	3. Elimination	4	Very Valid
	4. Combined	3,5	Very Valid
	Average	3,75	Very Valid
Average Instrument Validity			Very Valid

In the application stage, a trial of the learning video products that have been developed is carried out. This stage measures the practicality and effectiveness of the learning video media, made in this case, the contextual-based SPLDV material learning video, validated using validated instruments. The following are the results of the analysis of the level of practicality and effectiveness:

Table 11. Results of Analysis of Practicality and Effectiveness Levels

Criteria	Results of Data Analysis	Score	Category
Practicality	Results of Teacher Response Questionnaire Analysis	3,92	Very Positive
	Results of Learning Implementation Analysis	1,85	Fully Implemented
Effectiveness	Results of Learner Response Questionnaire Analysis	85,43	Very Positive
	Results of Learner Activity Analysis	71,05	Good Category
	Results of Mathematical Literacy Test Analysis	76,05	Higher

This learning video trial was conducted on class VIII.2 students at MTsN Gowa, with a total of 19 active students. There were 4 meetings at this stage, namely 3 meetings of learning activities and 1 meeting of mathematical literacy test implementation. At the implementation stage, it was observed by two observers, one of whom was the teacher in the learning implementation process, which aimed to obtain practicality data through filling in the instrument of the observation sheet for the implementation of the learning video, and filling in the teacher response questionnaire. Furthermore, effectiveness data were obtained through a student response questionnaire after three meetings in the learning process, and a student activity observation sheet instrument filled in by the observers based on their observations.

After this implementation stage, it will be further evaluated based on the feedback on the product trial, so that only minor revisions to the learning video are obtained, namely by editing the teacher's animation into a complete and more interesting animation.

DISCUSSION

The design of this contextual-based learning video is designed and developed to achieve learning objectives so that it can improve students' mathematical literacy skills. In other words, mathematical literacy skills are implemented in SPLDV material. Learning videos that can be applied must go through the assessment stage by the validators first. The research and development results show that contextual-based learning videos on SPLDV material are declared valid, with some suggestions for improvements that must be considered to complete the video. After revision based on the suggestions received, this learning video is ready to be tested. The results of validating context-based learning videos on SPLDV material obtained an average score of 3.83, with a very valid category. This is in line with the development of learning videos conducted by Fiqoh (2022), with the development of learning videos, namely the development of contextual teaching materials based on mobile learning on circle material to improve students' mathematical literacy skills and learning motivation, the learning video validity test results are very feasible. The same thing was also done by Endang et al. (2020) who developed contextual-based teaching materials on space building material, assisted by learning videos, and showed valid and feasible results.

The practicality of contextual-based learning videos on SPLDV material is measured through teacher response questionnaires and implementation sheets using learning videos. Based on the teacher's response analysis results, the score was 90.38% and was very positive. Teaching materials developed will meet the practical category if the average score of the teacher response questionnaire meets the minimum positive criteria (Widoyoko (2009). This means that based on the assessment given and the aspects and indicators in the teacher response questionnaire, it has a very positive value in most aspects and indicators. The learning implementation analysis obtained a value of 1.85 and was in the category of fully implemented. Based on the minimum criteria for the practicality of teaching materials, on teacher responses according to Widoyoko (2009) is in the positive category, and for learning implementation that the minimum criteria are in the partially implemented category, based on the value of the results of the teacher response questionnaire assessment and the implementation of learning, both of which meet the minimum criteria for practicality, the contextual-based learning video on SPLDV material can be said to be practical. This is in line with research Anjarsari, Prayito, & Setyawati (2022), who developed a contextual-based learning video assisted by GeoGebra software to improve learning outcomes and met the level of practicality by being in perfect criteria. Other research conducted by Nabila, Fitriani, & Setiawan (2023), who developed a learning video and obtained an efficient response from students.

This effectiveness can be seen and measured from students' behavior after the learning process is implemented in the student activity sheet, student response questionnaire, and student mathematical literacy skills test. Based on the analysis of the effectiveness criteria by looking at the instruments used, the students' responses obtained a value of 85.43%, which is very positive. This category means that, based on the assessment aspects of the learner response questionnaire, most students positively respond to the video used. Then the value of the analysis of students' activities obtained a value of 71.05% and was in the good category, namely, based on the aspects contained in the observation sheet, the observer assessed that students had carried out or participated in the observed aspects, even though students carried out several aspects. Furthermore, the mathematics literacy test on SPLDV material obtained a passing percentage of 76.05% which was in the high category and the average mathematical literacy ability of students was at level 4, namely 13 people with a percentage of 68.42%, at level 3 as many as two people with a percentage of 10.53%, at level 2 as many as three people with a percentage of 15.79%, and at level 1 as many as one person with a percentage of 5.26%. It was found that students with high mathematics ability were at level 4 of mathematical literacy ability, while students with moderate mathematics ability were at level 3, and students with low mathematics ability were at level 2 and level

 Print ISSN: 2088-2157, Online ISSN: 2580-0779

1. Therefore, based on the results of the analysis of student activity observation sheets, student response questionnaires, and mathematical literacy tests on SPLDV material, it can be stated that it meets the level of effectiveness, this is also supported by research conducted by (Avania & Sholikhah, 2021) This is in the form of developing audio-visual learning media with a contextual Teaching and Learning (CTL) approach to increase student learning motivation and meet the effectiveness level of the learning video. Other research conducted by Rachmawati & Sumargiyani (2021) developed a contextual learning video on the material of the system of linear equations of one variable in class VII SMP. In this study, this learning video media was declared effective. Therefore, the development of contextual-based learning videos on the material of the system of linear equations of two variables has met the criteria determined based on the level of validity, practicality, and effectiveness, so that this contextual-based learning video can be declared qualified to be applied or used in learning activities.

Learning using contextual-based learning videos can be said to influence students' mathematical literacy. Learning with learning media can help in the learning process compared to only focusing on using textbooks and conventional methods, so that this can also increase student interest in learning (Shafa & Yunianta, 2022a) In his research, he explained that interactive media improves students' mathematical literacy skills. Learning that uses interactive media is still rarely applied in schools, so this method affects student learning motivation. The existence of student interest and motivation causes student learning activities to be better, and learning is not monotonous. Video learning media can also help students understand the material more easily, provide a clearer visual experience in understanding mathematical concepts, and improve student learning outcomes in achieving learning objectives.

Previous research findings also state that the use of contextual-based learning videos can make students better understand the material by using learning videos that link the material to real life (Wijayanti, Makmuri, & Indrawati, 2021b). In addition, the findings of previous studies also state that interactive learning videos can improve mathematical literacy skills (Shafa & Yunianta, 2022b). The advantage of this medium is that it can be used in both offline and online learning. Combining audio and visual can make students more independent in the learning process, help clarify abstract material, and teach material concepts more effectively. The video can be replayed anytime and anywhere, making it more flexible in learning. In addition, the material and examples in the video relate to everyday life. The video is also equipped with evaluation questions given to students to measure the extent of their understanding of the material. The disadvantages of this learning video media are that it takes time and energy to prepare or make learning videos, if you want to download it, it requires memory in storage, but if you do not want to download it, you can watch it with Google Drive access. However, it requires a quota when playing videos. This research implies that this learning media can be used as an innovation by teachers in the learning process, and can be a learning support tool for students. This research is limited to SPLDV material. For other researchers, it is recommended to develop this contextual learning-based learning video that is more creative using different materials, and this contextual-based learning video can inspire the development of other media in learning.

CONCLUSION

From the results of the research conducted, the conclusion obtained from this research process is a contextual-based learning video on the material of the system of linear equations of two variables to improve students' mathematical literacy skills developed using the ADDIE development model which includes five stages, Analysis, Design, Development, Implementation and Evaluation. The assessment results are declared valid, practical, and effective based on what has been done by the validators; the learning video can be declared very valid, with an average of 3.83. The results of the practicality analysis were obtained in the teacher response questionnaire, with a percentage of 90.38% in a very positive category. In contrast, the observation sheet for implementing the learning video obtained 1.85, with the category fully implemented. The results of the effectiveness analysis obtained from the analysis of the learner response questionnaire were 85.43%, which is a very positive category. The results of the analysis of student activity were 71.05%, which is a good category. The SPLDV mathematical literacy ability obtained was 76.05%, and the average student was at level 4, with as many as 13 people, a percentage of 68.42%. The broader educational implication of these findings is the importance of using

innovative learning media, such as contextual-based videos, in supporting more meaningful mathematics learning. This approach allows teachers to create engaging and relevant learning experiences, improving students' mathematical understanding and skills. Therefore, contextual-based media can be an effective alternative in addressing the challenges of learning mathematics in schools. This study significantly contributes to teaching practice by offering more interactive and relevant learning solutions. However, this study is limited to SPLDV materials. For future research, it is recommended to develop learning videos with more diverse topics and test their applicability across different levels of education. In addition, developing more creative and diverse learning videos in contextual learning can enrich students' learning experience and improve mathematical literacy more broadly.

ACKNOWLEDGMENTS

Thank you to the Supervisor and Lecturer Examiner who have taken the time and given the author the opportunity, guidance, advice, input, and direction. Thank you to the Head of Madrasah, Mathematics Education, and students of MTs Negeri Gowa class VIII.2. Thanks to all those who have helped and contributed, especially parents, brothers, sisters, and all friends who always pray, encourage, support, and motivate.

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